

REMARKS

The examiner rejected claim 2 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Applicant respectfully submits that the claim as amended addresses the examiner's concern.

The examiner rejected claims 1, 4-6 and 9 under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,222,874 (Unnewehr et al.). The examiner rejected claims 1, 3, 10 and 17 under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,912,516 (Atkinson et al.). The examiner rejected claims 1, 5 and 7 under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,685,699 (Holmes et al.). The examiner rejected claims 1 and 8 under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 6,447,367 (Varney). Applicant respectfully traverses such rejections.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Independent claim 1 recites a compressor and driving motor assembly in which "the compressor comprises a main body supporting first and second interengaged compressor rotors, and wherein a drive shaft extends from one of the first and second compressor rotors and the motor rotor is mounted directly on the drive shaft, the drive shaft being supported by the compressor main body to provide cantilever support of the motor rotor."

None of the cited references teaches or suggests each and every element of independent claim 1. Atkinson et al., Holmes et al., and Varney all fail to teach or suggest, *inter alia*, a compressor comprising a main body supporting first and second interengaged compressor rotors and a drive shaft extending from one of the first and second compressor rotors. Unnewehr et al.

fails to teach or suggest, *inter alia*, the drive shaft being supported by the compressor main body to provide cantilever support of the motor rotor. As explained in Unnewehr et al. at column 5, lines 16-18, "the motor 12 being mounted vertically above the compressor 14." (emphasis added). The Unnewehr et al. system does not provide cantilever support for the motor rotor as recited in independent claim 1.

Furthermore, there is no motivation to combine the cited references. The systems of Atkinson et al., Holmes et al., and Varney are all utilized in conjunction with applications that do not require the large horsepower required by a rotary screw compressor. Unnewehr et al., the only system utilizing a rotary screw compressor, utilizes a large variable reluctance motor. Unnewehr et al. does not provide any teaching or suggestion that such a large motor can be supported by cantilever support. The fact that individual components of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness.

Claim 2 further recites that the portion of the drive shaft providing cantilever support of the motor rotor is free of vertical support. None of the cited references, including U.S. Patent No. 5,216,308 (Meeks) cited by the examiner, teaches or suggests the claimed invention.

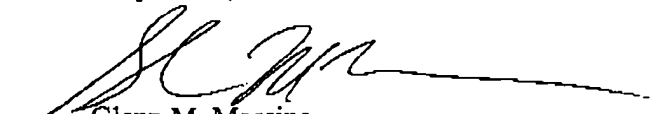
Claims 3 and 10 each recite a rotary screw compressor and driving motor assembly wherein the driving motor is a hybrid permanent magnet motor providing an induction mode and a permanent magnet mode. The examiner sites Atkinson et al. as teaching a hybrid permanent magnet motor. Applicant respectfully disagrees. The motor disclosed in Atkinson et al. is a permanent magnet motor as described at column 1, lines 33-56. The Atkinson et al. motor does not provide any inductance mode. None of the cited references, alone or in any reasonable

combination, teach or suggest the use of a hybrid permanent magnet motor to drive a screw compressor.

It is respectfully submitted that pending claims 1-8, 10, 11 and 13-17 are in condition for allowance. Early reconsideration and allowance of the pending claims are respectfully requested.

If the examiner believes an interview, either telephonic or in person, will advance the prosecution of this matter, it is respectfully submitted that the examiner get in contact with the undersigned.

Respectfully submitted,



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